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Shaping the Future of the West

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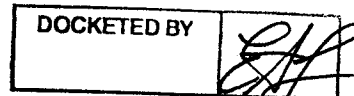
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**Arizona Corporation Commission's Inquiry into Innovations and Technological
Developments****Generic Docket No.: E-00000J-0375****Comments of the Sonoran Institute****January 17, 2014**

The Sonoran Institute (SI) is a non-profit conservation organization that promotes community decisions and public policies that respect the people and land of the West. We work on a range of issues that affect the region's quality of life and economic competitiveness, including access to clean, safe, and reliable sources of energy ("clean energy").

SI appreciates that the Commission is soliciting information regarding "major innovations and technological areas that appear to have the greatest potential to impact the current utility business model."

We believe the timing is right to consider how innovation will impact energy utilities and markets. As we have noted in previous dockets, there is tremendous ongoing innovation in energy technologies and services, most of it around clean energy-driven cost reductions, increased efficiencies, and consumer products and services. There is also tremendous innovation in energy markets, operations, and transmission, driven by new technologies, operations for "least cost" integration of clean energy, and market approaches that respond in part to increased reliance on clean energy. Given that overall energy demand is flat, this is the time for careful consideration of regulatory, utility, and policy options that could take advantage of and further foster clean energy technological, operations, and market innovations.

Arizona is exceptionally well positioned to be a national leader in developing clean energy resources for in-state and neighboring markets. Arizona has excellent solar resources that are located in close proximity to major markets. It also has a diverse portfolio of federal, state, and private lands well suited for developing solar and wind resources at varying scales. Also, strong state policies (Renewable Energy Standard, Energy Efficiency Standard, and Integrated Resource Planning Rule) and federal policies (U.S. Bureau of Land Management's Solar Programmatic Environmental Impact Statement and Restoration Design Energy Project) are in place to facilitate clean energy development.

We believe that additional state-level energy policy should facilitate continued investments in clean energy in Arizona for a number of reasons:

¹ "Clean Energy" refers to utility-scale and distributed renewable energy and energy efficiency.

- A large number of clean energy technologies are becoming commercially viable. Power generation technologies like solar (prices down 80 percent in the last five years) and wind (down 30 percent in the same period) are gaining market share. Adjoining states' utilities are acquiring wind and solar projects at costs lower than system average generation, saving consumers money.²
- Clean energy provides Arizona consumers with a local and abundant source of power that is not subject to volatile global fuel markets.
- Clean energy emits no greenhouse gases or other harmful pollutants, while using less water than any other energy source.

Increasing investments in clean energy are not without their challenges. First and foremost is the issue of variability. However, there are both technological and system-wide operating responses that can address this challenge, among them: forecasting, demand response, system optimization, transmission infrastructure, storage, and fast-ramping natural gas.³ Additionally, well-designed market, operations and regulatory approaches can provide for high reliability, reasonable cost, and strong environmental performance while allowing for additional investments in clean energy.

One resource available to the Arizona Corporation Commission to explore innovative market and regulatory approaches that would foster competition and increase innovation in response to new pressures in the electricity sector is *America's Power Plan*. Written for state public utility commissioners, power company executives, investors, and grid and market operators, *America's Power Plan* offers detailed policy recommendations that would allow Arizona to take advantage of distributed supply and storage, customer load management technology, energy efficiency, major new loads, utility-scale storage technology, metering technology, and transmission and distribution automation. These recommendations follow five general principles:

- Long-term signals that reduce risks and give utilities confidence to make necessary investments in appropriate resources.
- Incentives that encourage innovation and efficiency.

² See:

<http://www.wecc.biz/committees/BOD/TEPPC/SPSG/Lists/Events/Attachments/757/Xcel%20PPA%20Details%20Lower%20Wind%20Energy%20Costs.pdf>.

³ See: Western Governors' Association, "Meeting the Renewable Energy Targets at Least Cost: The Integration Challenge" June 12, 2012. At: http://www.westgov.org/reports/cat_view/95-reports/263-2012.

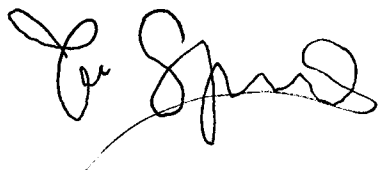
- Proper valuation of generation and demand-side resources.
- Valuation of new ancillary services to help modernize grid operations.
- Constructive engagement and coordination among regulating agencies and utilities.

More information about *America's Power Plan* can be found at <http://americaspowerplan.com>.

Conclusion

Over the coming decades, our nation is expected to invest more than \$2 trillion in our energy infrastructure, from generation to transmission and distribution. This investment presents an unparalleled opportunity to modernize our electricity system with new and emerging technologies and cutting-edge market design and regulations, while providing Arizonans with the clean energy for which they have consistently demonstrated strong support.

Respectfully submitted the 17th day of January 2014.

A handwritten signature in black ink, appearing to read "John Shepard", with a long horizontal flourish extending to the right.

John Shepard
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